REMARKS

Election With Traverse

In the Office Action dated October 11, 2002, the Examiner entered a restriction requirement indicating that the claims were directed to nine patentably distinct species of a claimed invention. Applicant respectfully traverses this nine-way restriction requirement.

Applicant submits that the nine species identified by the Examiner correspond directly to each set of claims comprising an independent claim and the claims dependent therefrom. However, these sets of claims are related in a number of ways, and do not each represent independent and distinct inventions.

Generally, the invention provides a component and means by which the reactants and products of the electricity-generating reactions can be introduced to and removed from the site at which said reactions occur. Applicant respectfully submits that this provides the unity of invention required to maintain the claims as a single application or in any event suggests that sufficient unity is present such that a nine-way restriction requirement is not required.

Specifically, claims 1-12 are drawn to a direct oxidation fuel cell, which includes a membrane electrode assembly, the inventive anodic metallic diffusion layer and the inventive cathodic metallic diffusion layer. Claims 13-22 are drawn to a direct oxidation fuel cell system, which includes, *inter alia,* a direct oxidation fuel cell that has a membrane electrolyte, and the inventive anodic diffusion and cathodic diffusion layers. Thus, claims 13-22 are drawn to a system that includes the subject matter of claims 1-12. Consequently, there is a "disclosed relationship between the two or more subjects disclosed" as discussed in MPEP §802.01 in that the direct oxidation fuel cell system of claims 13-22 includes a direct oxida-

tion fuel cell of claims 1 -12. Accordingly, the two subjects are connected in design, operation and effect and are thus not independent inventions as defined in MPEP § 802.01. Furthermore, the subject matter of claims 1-12 is not distinct from the subject of claims 13-22 because the two are not, practically speaking, capable of separate use or the subject of separate sales. Simply put, by definition a direct oxidation fuel cell system cannot exist without a direct oxidation fuel cell, and the practical utility of a direct oxidation fuel cell is severely compromised without an attendant system.

Evidence now of record supporting this argument in traverse of the restriction may be found in Fig. 1, which illustrates one embodiment of a direct oxidation fuel cell system, as claimed in claim 13. It includes: a source of fuel (fuel delivery assembly 4, reservoir 4A and pump 24), a direct oxidation fuel cell 3, and gas separators for CO_2 and air. The direct oxidation fuel cell 3 itself is illustrated in more detail in Fig. 2A. Thus the subject matter of claims 1 –12 (the fuel cell 3) is related to that of claims 13 –22 (the fuel cell system 2), in that the fuel cell is an integral and necessary component of the fuel cell system. Accordingly, the subject matter of claims 1 – 12 and 13 – 22 as illustrated in these two figures are not independent or distinct, and the claims drawn to those subjects should not be the subject to a restriction requirement.

Claim 23, the Examiner's species III, was cancelled in the preliminary amendment filed June 18, 2002.

Claims 24-62 (the Examiner's species IV) are directed to a direct oxidation fuel cell, which includes a membrane electrode assembly, the inventive anodic diffusion layer, an anodic catalyst and a load coupled across the anode and cathode of the fuel cell. Claims 24 –62

claim substantially the same invention, with additional limitations, as that claimed in claims 1 – 12, save for the omission of the cathodic diffusion layer from claims 24 – 43. The claims that do include the cathode diffusion layer, i.e., claims 44-62, clearly relate to the same subject matter, i.e., a direct oxidation fuel cell with anodic and cathodic diffusion layers, as in claims 1 – 12.

In all of claims 1 – 62 at least a direct oxidation fuel cell and an anodic diffusion layer is recited. Some of the claims additionally include a cathodic diffusion layer. The fuel cells and fuel cell systems so claimed are related in design in that they all have a membrane electrode assembly that has an anode and a cathode, and they include an anodic metallic diffusion layer. The fuel cells (and systems) are related in operation in that they produce the same chemical reactions at the anode in the presence of fuel and at the cathode in the presence of oxygen. And, they are related in effect in that they generate electricity from those chemical reactions. It is thus respectfully submitted that claims 24 – 62 involve subject matter that is related to, and not independent and distinct from, claims 1 –12 (and 13 – 22).

Claims 63-70 are drawn to a direct oxidation fuel cell system comprising a direct oxidation fuel cell (such as that described in claims 24-62) that includes a membrane electrode assembly and an anodic metallic diffusion layer, and thus for the same reasons stated herein, is related to and not independent or distinct from claims 1 – 62.

Applicant respectfully submits that the two sets of claims, namely claims 24-62 and claims 63-70, are of the same species as claims 1- 12 and claims 13-22 because they are drawn to a direct oxidation fuel cell, or the related system that houses the fuel cell. Thus, claims 1-70 are drawn to a single invention and should be examined in a single application.

In the alternative, Applicant respectfully submits that at least claims 1 – 12 and 13 – 22 represent one species of invention that should be grouped together, as these claims recite a direct oxidation fuel cell that has an anodic diffusion layer and a cathodic diffusion layer, and the system including these elements.

Furthermore, it is respectfully submitted that claims 71-103 are drawn to a single invention, in that claims 71-92 are drawn to a direct oxidation fuel cell comprising a membrane electrode assembly and the inventive cathodic metallic diffusion layer. Similarly, claims 93-103 are drawn to a direct oxidation fuel cell system comprising the same components, namely a fuel cell that has a membrane electrode assembly and the inventive cathodic metallic diffusion layer, with the additional components of a source of fuel and a source of oxygen. The fuel cell system of claims 93 –103 is not capable of separate use, and unlikely to be capable of separate sale, without including a direct oxidation fuel cell (as claimed in claims 71-92). Accordingly, claims 71-103 form a second species of invention.

Claims 104-109 are drawn to a direct oxidation fuel cell comprising a membrane electrode assembly, means for distributing fuel to the anode (anodic diffusion layer) and means for distributing oxygen to the cathode (cathodic diffusion layer). This is a broader statement of the invention of claim 1 and is thus a generic claim, which Applicant is entitled to include in the set of elected claims.

Accordingly, Applicant elects the invention of its first group of claims, which are claims 1-70. Applicant also elects to include the generic claims (104-109) in the present application. Claim 110 is drawn to a means for generating electricity comprising a direct oxidation fuel cell, which includes a direct oxidation fuel cell means, means for providing oxy-

gen to the cathode and means for providing fuel to the anode and means for coupling the two. This is also a generic claim, which relates to the invention claimed in claims 71- 103, and it is submitted that it thus should be included with the group of claims that includes claims 71-103.

SUMMARY

Applicant hereby elects to prosecute the invention of the first group of claims identified herein as claims 1-70, as well as generic claims, claims 104-109. In the alternative, should the Examiner determine that the first group of claims consists of claims 1 – 22, then the Applicant elects to prosecute those claims as well as generic claims 104-109.

Please do not hesitate to contact the undersigned to advance the prosecution of this application in any respect.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

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